

*Marshii*, Marcou, is not *O. Marshii*, Sow., and therefore the name *O. subovata*, Shumard, is the real name of the species. *Gryphæa Tucumcarii*, M., is at least as nearly related to the typical specimens of *G. Pitcherii*, Morton, now in the Museum of the Academy, as the forms referred to *Pitcherii* by Marcou, and known to geologists as var. *navis*. The specimen from the plains of Kiamesha, mentioned by Morton, is more nearly of the shape of *Tucumcarii* than the one figured, but no paleontologist would hesitate for a moment in pronouncing them identical.

In regard to the real position of these species, Dr. Shumard, in Marcy's Report on the Red River of Louisiana, places *O. subovata*, on the same horizon with *G. Pitcherii* and *Ammonites resperlinus*, both of which species are, in other parts of the United States, found associated with species that are everywhere characteristic of the chalk, such as *Baculites anceps*, *Gryphæa vesicularis*, *Ostrea larva*, *Exogyra Matheroniana*, of D'Orbigny, (or *E. Texana*, Roemer,) *Nautilus Dekayi* and other species, not only found in the United States, but in Europe, Chili and India, and never found outside of the Upper Chalk of English authors, the Senonian of the French.

Mr. Gabb did not pretend to deny the existence of the older members of the cretaceous formation in North America, but said, that outside of the evidence in "Geology of North America," founded only on the doubtful recognition of two or three species of *Ammonites* from weathered fragments, all the testimony yet collected tends to prove the existence only of the Upper Chalk, unless, perhaps, some of the lower beds (Nos. 1 and 2) of Nebraska may prove, as he thinks probable, to belong to the Lower Chalk of the English, the Turonian of continental writers. Still the evidence is only negative. True, the beds of New Jersey cannot be distinguished lithologically from the green sand of England and France, but even Prof. Marcou would not now have the temerity to call them upper green sand or even "Turonien" in face of the palæontological evidence to the contrary; and yet, lithological evidence is among the strongest brought to bear on his Jurassic and Triassic of the West. That Jurassic and Triassic rocks do exist on this continent is now beyond doubt, but that Jurassic and Triassic, is not the Jurassic and Triassic of Marcou. That *Ostrea Marshii* has been found in the far West, associated with *Ammonites cordatus*, it is no evidence that the *O. Marshii* of Prof. Marcou is the *O. Marshii*, Sow.

In conclusion, he remarked that in the above opinions he was upheld by every American geologist who has investigated the subject.

Mr. Cope read the following list of the recent species of Emydosaurian reptiles represented in the museum of the Academy.

ALLIGATORIDÆ.	<i>Crocodylus palustris</i> ,
Alligator Mississippiensis,	<i>Crocodylus porosus</i> ,
Jacare sclerops,	<i>Crocodylus vulgaris</i> ,
Jacare fissipes,	<i>Crocodylus Americanus</i> ,
Jacare vallifrons.	<i>Mecistops leptorhynchus</i> ,
CROCODYLIDÆ	<i>Mecistops bathyrhynchus</i> ,
<i>Osteolaemus tetraspis</i>	<i>Gavialis Gangeticus</i> .

In all, twelve species, represented by thirty-eight specimens.

*OSTEOLAEMUS*, Cope, was characterized as a genus of *Crocodyles* presenting several points of analogy to the Alligators. The nasal bones were prolonged anteriorly, and uniting with the short spine of the intermaxillary, divided the external nasal orifice, as in the genus Alligator. The eyelids were entirely osseous, as in Caiman. There was no transverse bony ridge between the orbits. The dermal plates upon the tail, extremities, and thorax, were more or less completely ossified; upon the gular region the ossification was most complete, the shields having a coarse sutural articulation. The digits of the posterior extremity were very slightly webbed. Cervical plates distinct from the dorsal.

Two specimens were exhibited; one, a skin brought from the Ogobai River, Western Africa, by Mr. P. B. Du Chaillu; the other, the skull of a half-grown individual, obtained from the Museum of the Pennsylvania University. These Mr. Cope regarded as belonging to a species hitherto unknown, and which he proposed calling *Osteolaemus tetraspis*. He briefly characterized it as follows: Proportions of the head somewhat similar to those of *Crocodylus trigonops*, Gray, of India. Breadth of muzzle at ninth tooth equal to the distance between the external nasal orifice and anterior border of the orbit, and to the width of the table of the cranium posteriorly. A short ridge in front of

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each orbit, directed obliquely inward. Teeth —, rather compressed. Four

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nuchal shields, in a single transverse series; four cervical, in pairs. Dorsal shields in six rows. Posterior extremities without fringe. Total length of the entire specimen, five feet.

Mr. Cope alluded to the remarkable extent to which ossification was carried in this species. The cranium was much more rugose and pitted than in the adult specimens of much larger species, and the crotaphite foramina were roofed over by bone. The latter peculiarity was sometimes observed in the genera *Jacare* and *Caiman*. The osseous gular and thoracic buckler was also similar to that exhibited by those genera, and by the extinct "*Crocodylus*" *Hastingsia*, the existence of which has been shown by Professor Huxley. And alluding to the numerous points of analogy to the Alligatorial or American type, Mr. Cope mentioned the occurrence of South American forms of tree-snakes in Western Africa; e. g. *Dryophis Kirtlandii* and *Thrasops flavigularis*. *Hallowell*.

*Mecistops bathyrhynchus* was the name by which Mr. Cope proposed to characterize a species, of which a large skull was in the Academy's museum. This skull was of a very elongate form; on this account, and from the fact that the nasal bones disappeared some distance posterior to the external nasal orifice, he concluded that it belonged to *Mecistops*, *Gray*, although that genus was mainly characterized by the position of the cervical dermal shields. The breadth of the muzzle at the tenth tooth was twice that at the notch, and was contained two and half times in the space between the orbit and nasal orifice. The length of the muzzle anterior to the tenth tooth equalled the length posterior to that point, plus three-fourths the length of the orbit. The latter was scarcely larger than the external nasal orifice. The width of the table of the cranium posteriorly, entered into the total length, measured from the posterior border of the former, four times; was equal to the length of the symphysis mandibuli; was greater than the width of the muzzle measured across the palate between the twelfth and thirteenth teeth, and was exactly twice the width of the os frontis. The snout was more rounded and elevated than in the known species of *Mecistops*; the superior maxillary bone at its posterior extremity formed a perpendicular wall. The length of the ramus of the inferior maxillary from the angle, was thirty-two inches, the symphysis extending one-fifth the distance.

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Neither ridge nor convexity in front of the orbits Teeth —. Native country

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of the species unknown.

Mr. Cope stated that in the present species the muzzle was less depressed, and more rounded laterally than in the species of *Crocodylus*; also that the fourth and tenth teeth above, and fourth below, were of proportionally large size.

Mr. Lea read two letters from Prof. Tyson, State Geologist of Maryland, in relation to some remarkable infusorial beds of *Tripoli*, observed by him in Maryland. The specimens were presented to the Academy:

No. 1 is from a bluff on the Patuxent, below Lyon's Creek, the bed being three feet thick, overlying the green sand.

No. 2 is from a bluff two miles below Nottingham, the thickness ten feet.

No. 3 is from "Holland's Cliffs," three miles south of "Lower Marlboro'", and is thirty feet thick.

No. 4 is from the "Cove," on the south side of Herring Bay, eight miles east of Nos. 1 and 2.

Prof. Tyson has traced this "Tripoli region" from near the head of West River, in Anne Arundel County, twenty-five miles southward, to Prince Frederick, in Clavert County. It may be found to extend eighteen or twenty miles further south, to near the lower end of Calvert County. It is well exposed in high cliffs on the Patuxent, as well as on the Chesapeake Bay. It probably extends over most of Charles County, and of the southern part of Prince George County.

It belongs to the Miocene period, and rests upon the most important fossil shell bed of the Tertiary region. Prof. Tyson states that Dr. C. Johnson has made out more than one hundred forms of Diatoms in No. 3.

Dr. Fisher exhibited a stereoscopic picture of a parasitical insect, taken by means of a new and ingenious arrangement of the ordinary microscope, by Dr. R. E. Griffith. The insect was magnified between 20 and 25 diameters.

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December 18th.

Vice-President BRIDGES in the Chair.

Forty members present.

The following papers were presented for publication in the Proceedings:—

"Description of some new Species of Tertiary Fossils from Chiriqui, Central America, by Wm. M. Gabb."

"Descriptions of three new Species of Star-fishes from Cape San Lucas, Lower California, by John Xantus."

"Descriptions of new North American Coleoptera, in the Cabinet of the Entomological Society of Philadelphia, by George H. Horn."

"Catalogue of Colubridæ in the Museum of the Academy of Natural Sciences of Philadelphia, &c., Part 3, by E. D. Cope."

And were referred to Committees.

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December 25th.

Vice-President BRIDGES in the Chair.

Twenty-nine members present.

On report of the respective Committees, the following papers were ordered to be published in the Proceedings:—

**The Humming Birds of Mexico.**

BY RAFAEL MONTES DE OCA,

Of Jalapa, Mexico.

No. 3.

CAMPYLOPTERUS PAMPA, Gould.

ORNISMYIA PAMPA, Lesson.

PAMPA CAMPYLOPTERA, Reichenbach.

The people of Coatepec, nine miles from Jalapa, give to this species of Humming Bird the name of *Chupa-mirto fandanguero* or Fandango Myrtle-sucker, 1860.]